

**ROTEL** *hi-fi*

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STEREO INTEGRATED AMPLIFIER

**RA-930AX**

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**owner's  
manual**

WARNING  
TO PREVENT FIRE OR SHOCK HAZARD,  
DO NOT EXPOSE THIS APPLIANCE TO  
RAIN OR MOISTURE.

Write your SERIAL NUMBER here.  
The number is located near the name  
plate on the rear panel.

# SAFETY INSTRUCTION

**1. Read Instructions**— All the safety and operating instructions should be read before the appliance is operated.

**2. Retain Instructions**— The safety and operating instructions should be retained for future reference.

**3. Heed Warnings**— All warnings on the appliance and in the operating instructions should be adhered to.

**4. Follow Instructions**— All operating and use instructions should be followed.

**5. Water and Moisture**— The appliance should not be used near water -- for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.

**6. Carts and Stands**—the appliance should be used only with a cart or stand that is recommended by the manufacturer.

**6A.** An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

**7. Wall or Ceiling Mounting**— The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.

**8. Ventilation**—The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or placed in a built-in installation such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.

**9. Heat**— The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

**10. Power Sources**— The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

**11. Grounding or Polarization**— The precautions that should be taken so that the grounding or polarization means of an appliance is not defeated.

**12. Power-Cord Protection**— Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

**13. Cleaning**— The appliance should be cleaned only as recommended by the manufacturer.

**14. Nonuse Periods**— The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

**15. Object and Liquid Entry**— Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.

**16. Damage Requiring Service**— The appliance should be serviced by qualified factory authorized service personnel when:

A. The power-supply cord or the plug has been damaged; or

B. Objects have fallen, or liquid has been spilled into the appliance; or

C. The appliance has been exposed to rain; or

D. The appliance does not appear to operate normally or exhibits a marked change in performance; or

E. The appliance has been dropped, or the enclosure damaged.

**17. Servicing**— The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified factory authorized service personnel.

## PORTABLE CART WARNING



S3125A

**WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture**



**CAUTION**  
RISK OF ELECTRIC SHOCK  
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

### • Explanation of Graphical Symbols

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



### EXCLUSIVE NOTE FOR U.K.

If your unit comes with a 2-core mains lead without a plug, neither core is to be connected to the earth terminal of a three pin plug, make certain that they are connected, according to the following instruction, to the proper terminals. Check that the terminals are screwed down firmly and no loose strands of wire are present.

**IMPORTANT:** The wires in this mains lead are coloured in accordance with the following code:

**BLUE: NEUTRAL**

**BROWN: LIVE**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured **BLUE** must be connected to the terminal which is marked with the letter **N** or coloured **BLUE** or **BLACK**. The wire which is coloured **BROWN** must be connected to the terminal which is marked with the letter **L** or coloured **BROWN** or **RED**.

# ENGLISH

## STEREO AMPLIFIER RA-930AX

### A WORD FROM ROTEL

Rotel take this opportunity to thank you for choosing our equipment for your home entertainment.

Rotel equipment represents a very high state of the art in sound reproduction, as the result of our everlasting determination to achieve the truly hi-fi performance. Please enjoy the sound Rotel have created for many years to come.

To make sure you get the most out of your equipment, please read this owner's manual carefully before you attempt any connections.

### BEFORE CONNECTIONS

#### 1. PLACE FOR INSTALLATION

Ensure to place the unit in a flat surface where it is free from humidity, vibration, high temperature and not exposed to direct sunlight. Also, be careful not to place the unit in a highly enclosed area without adequate ventilation around the unit. Do not block the ventilation openings at the top and the bottom of the unit to prevent excessive heat built up.

#### 2. Electrical Requirements

Your equipment has been designed to be powered by the local AC voltage. Check the setting of your unit by looking at the rear panel name plate. Never try to plug the unit into an outlet of higher voltage, as this causes a serious fire hazard. Consult your dealer if in doubt.

#### 3. Connecting the Power Cord

Always handle the Power Cord with care. Ensure to connect the cord to the household wall outlet. When plugging and unplugging make sure the power switch on the unit is turned off.

#### 4. Do not Open the Cabinet

There are no user-serviceable parts inside the cabinet of the unit. Do not attempt to open the cabinet or tamper with the internal components. If water or foreign object falls inside the unit by accident, disconnect the power cord immediately and consult a qualified electrician or your dealer.

#### 5. Cleaning Your Unit

If your unit becomes dirty, wipe it gently with a soft, dry cloth. Never use solvents of any kind.

### CONNECTIONS

#### 1. Connecting Components

The illustration shows what audio components you can connect to the rear panel of the unit and how they should be properly hooked up via RCA type pin cords. Ensure that the Left and the Right channels are correctly matched between the RCA type sockets of the unit and those on the components.

Connect the grounding wire of the turntable to the GND screw terminal on the back of the unit near the PHONO sockets.

#### 2. Connecting Speakers

a) Use speakers with impedance ratings of 4 to 8 ohms. However, if you wish to hook up 2 sets (pairs) of speaker systems and drive both sets simultaneously, ensure each speaker is rated 8 ohms minimum. Never connect speakers with lower impedance than 8 ohms in this case. The speaker impedance is indicated on the back or in the instruction manual of the speaker.

b) Do not use speakers that have very high capacitive load, say over 0.1 microfarads, as it may cause a damage to the power amplifier section. Normally, most speakers are low capacitance type, but there are a few which do have excessively high capacitance.

c) Use proper speaker cords normally your dealer will recommend, with as low capacitance content as possible. The speaker terminal posts provided on the back of the unit can also take banana plugs.

d) If connecting the speaker cords directly with the bare wire ends, suggest you strip about 1 cm of the insulation shield cover from the ends of the speaker cords. Twist any exposed strands tightly, and insert the ends properly to the terminal posts.

e) The DIRECT terminal posts are recommended for the best sound quality possible from the unit in the "straight-path" route bypassing the headphone circuit. The sound from the speakers connected to the DIRECT terminal posts will not be affected by the Speaker Remote button on the front panel. However, if you wish to listen to your headphone privately, connect your speakers to the REMOTE terminal posts and use the speaker Remote button on the front panel to turn the speakers off.

f) The REMOTE terminal posts are for the second pair of speakers if you wish to use it for such as providing sound to another room. The sound from the remote speaker can be turned on and off by the front panel speaker Remote button.

g) Ensure the Left and the Right channels are correctly connected between the unit and the speakers, and make sure for each channel the "+" and "-" are also correctly matched. Check that the speaker cord ends (exposed tips) on the terminal posts are not stray and touching one another, which will cause short circuits and may damage both the unit and the speakers.

### SWITCHES AND CONTROLS

#### (1) Power Button

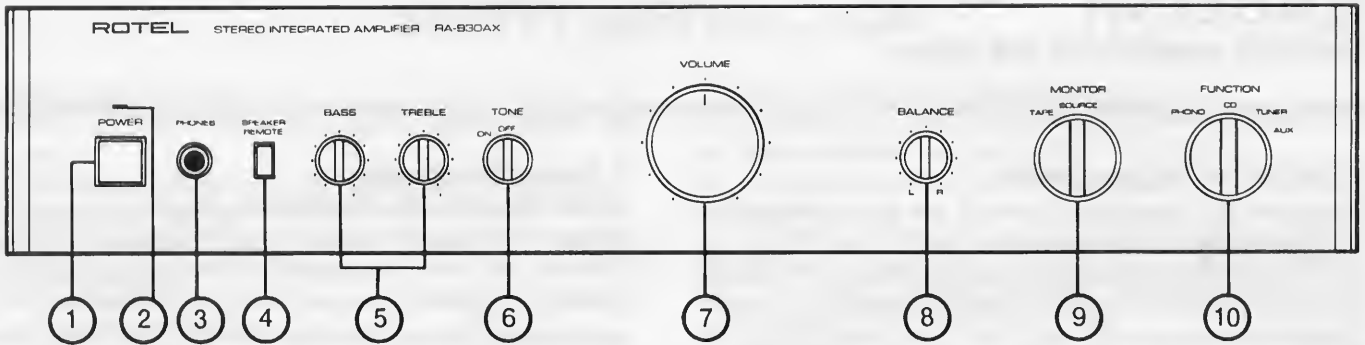
Press this button to turn on and off the unit.

#### (2) Power Indicator

Glows when power is turned on with the power button.

#### (3) Phones Jack

Plug your headphones to this jack, making sure it has the correct type connector. For private listening, if your speakers are connected to the DIRECT speaker terminal posts on the back panel, you have to disconnect the speakers off the terminal posts to cut off sound from the



speakers; however, if your speakers are connected to the REMOTE speaker terminal posts, deactivate the speaker Remote button to cut off sound from the speakers. Hence, if you are frequent user of the headphones, you may wish to connect the speakers to REMOTE terminal posts all the time.

#### (4) Speaker Remote Button

Press the button to activate the speakers connected to the REMOTE speaker terminal posts on the back panel. Release the button to cut off the sound from the Remote speakers.

#### (5) Tone Controls

The BASS control regulates the low frequencies and the TREBLE control regulates the high frequencies. The center points are for the flat frequency response. Turn clockwise to boost the response and counterclockwise to reduce it, if your listening room acoustics, are excessively lively or dead and requires the compensations when adjustments by relocating the speakers, rearranging furnitures, etc. all failed.

#### (6) Tone Selector

Normally the tone controls should be deactivated by this switch set at the OFF position, where signals completely bypass the tone control circuit for minimal deterioration of

the sound quality. The tone controls will not function at this position. If the operation of the tone controls is necessary, set the selector to the ON position to activate the tone controls.

#### (7) Volume Control

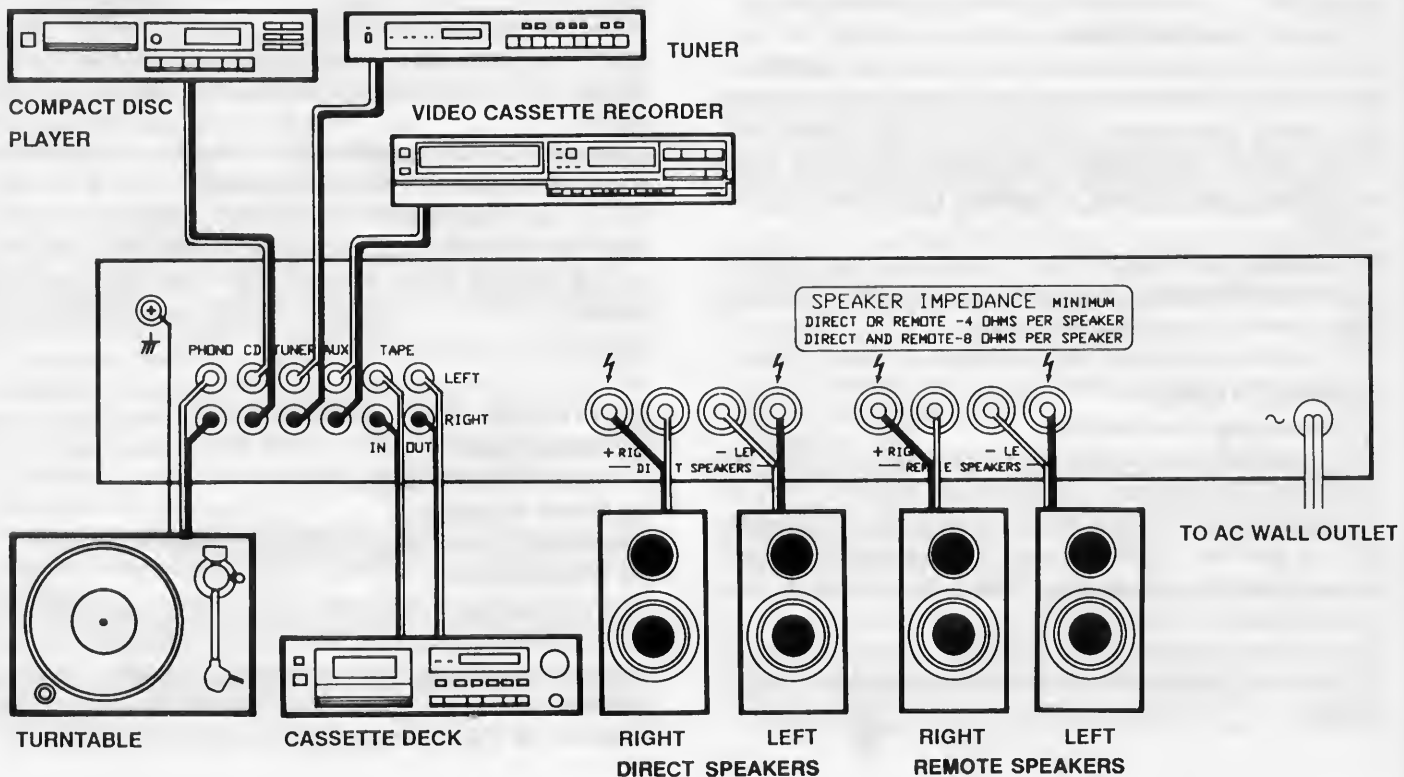
Used to regulate the volume level. Turn clockwise to increase the level and counterclockwise to reduce it. Due to the high quality material and construction used on the volume control for sound quality, the sound level will not rise sharply at low settings. Normally, the control is recommended to be set between 11:30 to 2:00 o'clock position with other Rotel's equipments connected, but a finite adjustment will depend on the sensitivity of your speakers.

#### (8) Balance Control

Set normally at the center position for equal volume level from both speakers. Turning to the right decreases the sound from the left speakers, and turning to the left decreases the sound from the right speakers. Use the control only when there is an unbalance in the sound level between the two speakers.

#### (9) Monitor Selector

Used to listen to a signal supplied from your tape deck connected to the TAPE inputs on the back of the unit by setting to the TAPE position. Set to the SOURCE position



when not playing the tape deck, in order to allow sound from any source selected by the Function selector.

### **(10) Function Selector**

Allows choose any input connected to the unit, except for the tape deck connected to the TAPE inputs on the back of the unit. Note the sound from the input chosen by the Function selector will not come out from the speakers when the Monitor selector is set at the TAPE position, so ensure the Monitor selector is set at the SOURCE position.

## **WORDS ON OPERATIONS**

### **Precautions**

1. Before commencing operation, check to see if all connections are properly made.
2. Always ensure to set the volume control to the minimum position before turning on the Power switch.
3. Make sure the Monitor selector is at the SOURCE position when listening to the PHONO, CD, TUNER, or AUX input.

### **Playing Turntable**

1. Set to the PHONO position on the Function selector.
2. Use only a high quality cartridge to obtain the maximum potential from the unit's high quality phono circuit. Usually using cartridges as recommended by your dealers will prevent any grief on the suitable matching.
3. Start playing the turntable, then raise the volume to a desired listening level.

### **Tuner Reception**

1. Set to the TUNER position on the Function selector.
2. If possible, turn your tuner's power off when not operating it. Although crosstalks are held to minimum by the circuit design, this is the perfect way to cut off the signal from the radio reception bleeding through to the other inputs connected to the main unit.

### **Operating CD Player**

1. Set to the CD position on the Function selector.
2. Read the instruction manual of your player carefully to maximize the full potential.
3. Using higher quality interconnecting cords between your CD player and the amplifier may often improves sound quality.

### **Tape Deck Playback**

1. Set to the TAPE position on the Monitor selector if your tape deck is connected to the TAPE inputs on the back of the unit. Please note you may connect another cassette deck or the audio output of your video tape deck to the AUX inputs on the back of the unit, for a playback purpose only as no output supplied for recording. Set to the AUX position on the Function selector if wish to play the tape deck connected to the AUX inputs, and ensure the Monitor selector is set at the SOURCE position.
2. Use only a good quality cassette tape deck (in terms of sound quality) or a DAT deck, etc. for maximizing the full potential of the amplifier.

### **Recording Tape Deck**

1. If your TAPE deck is connected to the TAPE outputs on the back of the unit, you can record any input on the Function selector. Set the Function selector to the input you wish to record, and proceed the recording with your tape deck. Leave the Monitor selector at the SOURCE position.

2. During recording, operation of the volume control and the Tone controls have no effect on the recorded signal being fed to the TAPE outputs.

3. If your tape deck is a 3-head machine, you may monitor recording signals by setting the Monitor selector to the TAPE position.

## **HUM AND NOISE**

In any high fidelity installations, hum may be caused by the interconnection of turntable, tuner, amplifier and speakers as the result of wiring, different grounding or locations of components.

If hum is experienced with your unit, disconnect everything but the speakers from the unit. Plug in the turntable and if hum or howling appears, move it away from the speakers as much as possible.

Note hum may also be induced by defective cable connections or by running the cables too close to strong AC field. When your unit picks up noise during the reception of broadcasts, causes are mostly due to external objects such as fluorescent lamps and house appliances using motor or thermostat, or others than may induce noise.

Either relocating the unit away from the noise sources or using an improved outdoor antenna may readily resolve the problem. In the event you cannot find the cause, consult your dealer or qualified electrician.

**SPECIFICATIONS RA-930AX**

Continuous Power Output...30 watts\* per channel, min.  
RMS both channels driven into  
8 ohms from 20 to 20,000 Hz  
with no more than 0.03% total  
harmonic distortion.

DIN Output.....50 watts per channel (1 kHz, 4  
ohms, 1% THD)

Music Power.....110 watts

Total Harmonic Distortion...No more than 0.03% (contin-  
(20 to 20kHz from AUX) uous rated power output) No  
more than 0.03% (continuous  
1/2 rated power output) No  
more than 0.03% (1 watt per  
channel power output, 8 ohms)

Intermodulation Distortion...No more than 0.03% (contin-  
(60 Hz: 7 kHz = 4:1) uous rated power output) No  
more than 0.03% (continuous  
1/2 rated power output) No  
more than 0.03% (1 watt per  
channel power ouptut, 8 ohms)

Output:Speaker.....4 ohms minimun  
Headphone.....8 – 2,000 ohms

Damping Factor.....180 (20 to 20,000 Hz, 8 ohms)

Input Sensitivity/ Impedance:

PHONO.....2.5 mV/ 47 kohms

CD, TUNER.....150 mV/ 20 kohms

TAPE, AUX.....150 mV/ 20 kohms

Overload Level (THD 0.5% 1 kHz):

PHONO.....180 mV

CD, TUNER.....5 V

TAPE, AUX.....5 V

Frequency Response:

PHONO.....20 to 15,000 Hz, +/- 0.3 dB  
(RIAA STD)

CD, TUNER.....10 to 40,000 Hz, +/- 1.0 dB

TAPE, AUX.....10 to 40,000 Hz, +/- 1.0 dB

Tone control:

BASS..... +/- 6.0 dB (100 Hz)

TREBLE..... +/- 6.0 dB (10 kHz)

Signal to Noise Ratio (IHF, A network):

PHONO.....80 dB

CD, TUNER.....100 dB

TAPE, AUX.....100 dB

**MISCELLANEOUS**

Power Requirement.....120 V/ 60 Hz, 220 V/ 50 Hz,  
240 V/ 50 Hz (depending on  
destinations)

Power Consumption.....180 watts

Dimension (overall).....440 (W) x 92 (H) x 304 (D)mm  
17-3/8" x 3-5/8" x 12"

Weight (net).....5.9 Kg/ 13.0 lbs

- Specifications and design subject to possible modifica-  
tion without notice.
- \*Measured pursuant to the Federal Trade Commis-  
sion's Trade Regulation Rule or, Power Claims for  
Amplifiers (applicable to the U.S.A. only).